

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016931**Date Inspected:** 22-Sep-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as hole restoration, 6W/7W-A, and the following observations were made:

1E-pp9.5-E3-1

The QA Inspector randomly observed the ABF welder identified as Jin Pei Wang performing grinding tasks on the above identified back gouged weld joint. The QA Inspector randomly observed the Smith Emery (SE) Quality Control (QC) Inspector John Pagliero perform visual testing several times in an attempt to clear or accept the back gouged weld joint. The QA Inspector randomly observed the back gouged weld joint and noted visible slag inclusions were present and additional grinding would be required. After the grinding was completed the QA Inspector randomly observed the ABF welder begin performing the SMAW back weld for the above identified weld joint. The QA Inspector noted the base metal and the weld joint were preheated to approximately 150°F and back welding was commenced. The QA Inspector randomly observed the ABF welder to be utilizing 1/8" E7208 low hydrogen electrodes with 125 Amps. The QA Inspector noted the SMAW back weld was continued from the previous day shift and completed on the QA Inspectors shift on this date. The QA Inspector randomly observed the ABF welder begin performing grinding tasks in an attempt to remove and grind the weld reinforcement flush with the base material.

6W/7W-A1-A5

Upon the arrival of the QA Inspector in the am it was observed the above identified weld joint was fit up with the approved temporary attachments or fit up gear in place. Upon the arrival of the QA Inspector, the QC Inspector

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Tony Sherwood informed the QA Inspector the planar misalignment inspection had been previously completed by SE QC and just required QA verification. The QC Inspector presented the QA Inspector with a planar misalignment map of the areas previously located by QC Tony Sherwood. The QA inspector noted the map indicated the only planar off set was located in the weld segment A5. The QA Inspector reviewed the document and proceeded to perform the random QA verification of the weld joint. The QA Inspector observed two additional areas of planar misalignment were in weld segment A3 and A4. It appeared the fit up gear had broken and the plates had shifted out of the previous position. The QA Inspector asked the ABF Welding Superintendent Dan Ieraci if he intended to correct the unacceptable planar misalignment (see summary of conversations). The QA Inspector randomly observed Mr. Ieraci make several attempts to correct the off set areas by re-welding the broken fit up gear and driving additional pins to push one side of the deck downward. After several attempts it was observed by the QA Inspector no change in the unacceptable planar off set. The QA Inspector and the QC Inspector recorded the following locations of planar misalignment:

The unacceptable planar misalignment was located at the following 3 locations:

y=11830mm-12030mm (14mm deck section) 0mm-2mm misalignment (200mm in length)

y=16410mm-16870mm (14mm deck section) 0mm-2mm misalignment (140mm in length) 2mm-4mm (305mm in length)

y=27100mm-27280mm (20mm deck section) 0mm-2mm misalignment (60mm in length) 2mm-4mm misalignment (50mm in length), 4mm-6mm misalignment (70mm in length)

Total planar misalignment 825mm of the total length of the weld joint.

The QA Inspector and the SE QC Inspector Tony Sherwood performed dimensional verification of the gaps at the steel backing. The QA Inspector noted the following areas have a gap between the steel backing and the bevel that are greater than 2mm:

1.) Y=2000mm-2060mm 3.5mm (6W/7W)

2.) Y=5870mm-6020mm 2.5mm (6W)

3.) Y=16400mm-16870mm 3mm-4mm (7W)

4.) Y=25200mm-25325mm 3mm-5mm (6W/7W)

5.) Y=27180mm-27280mm 4mm (6W)

The QA Inspector noted the above identified locations will require engineering approval prior to performing any weld repairs. The QA Inspector noted the locations were submitted by SE to ABF and the approval was given by the Project Engineer Patrick Lowry (see summary of conversation)

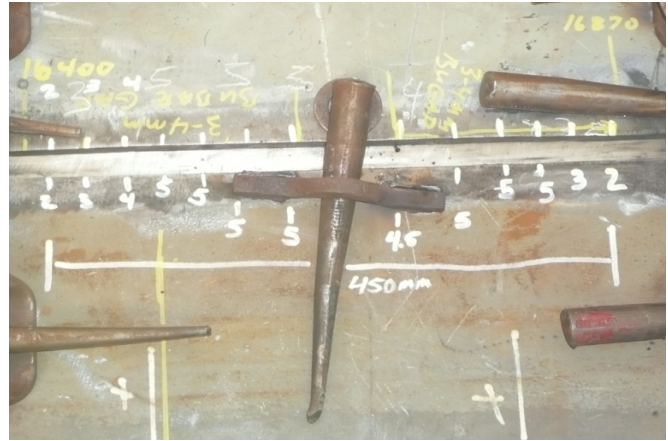
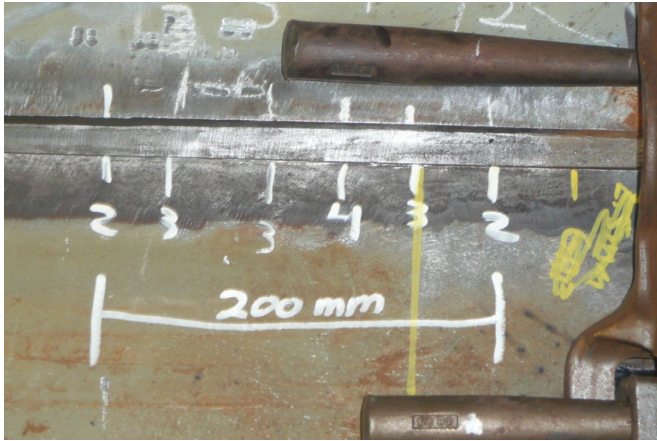
6W/7W-A5/A1

The QA Inspector randomly observed the ABF welder identified as Hua Qiang Huang performing FCAW root/fill/cover passes at the that 300mm of the weld segment. The QA Inspector randomly observed and noted no weld tabs or runoff tabs were being utilized on the weld joint. The QA inspector noted the ABF welder was depositing weld material 100% welded out complete on the last 300mm of the weld joint prior to performing the

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FCAW full length tack weld. The QA Inspector noted the ABF welder identified as James Zhen was performing the same FCAW root/fill/cover in the weld segment A1. The QA Inspector randomly observed the SE QC Inspector Tony Sherwood was on site monitoring the in process FCAW. The QA Inspector noted the 300mm at the ends of both of the above weld segments were completed on this date.



Summary of Conversations:

Mr. Ieraci informed the QA Inspector no additional fitting tasks would be performed due to the fact that ABF was breaking fit up gear. After the QA Inspector proceeded to continue to document the off set areas, Mr. Ieraci informed the QA Inspector he would attempt to correct the misaligned areas.

The QA Inspector was informed by the QA Task Lead Inspector Bill Levell, ABF was given the verbal approval to weld at 1000 per SMR Patrick Lowry.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
